GRUMMAN
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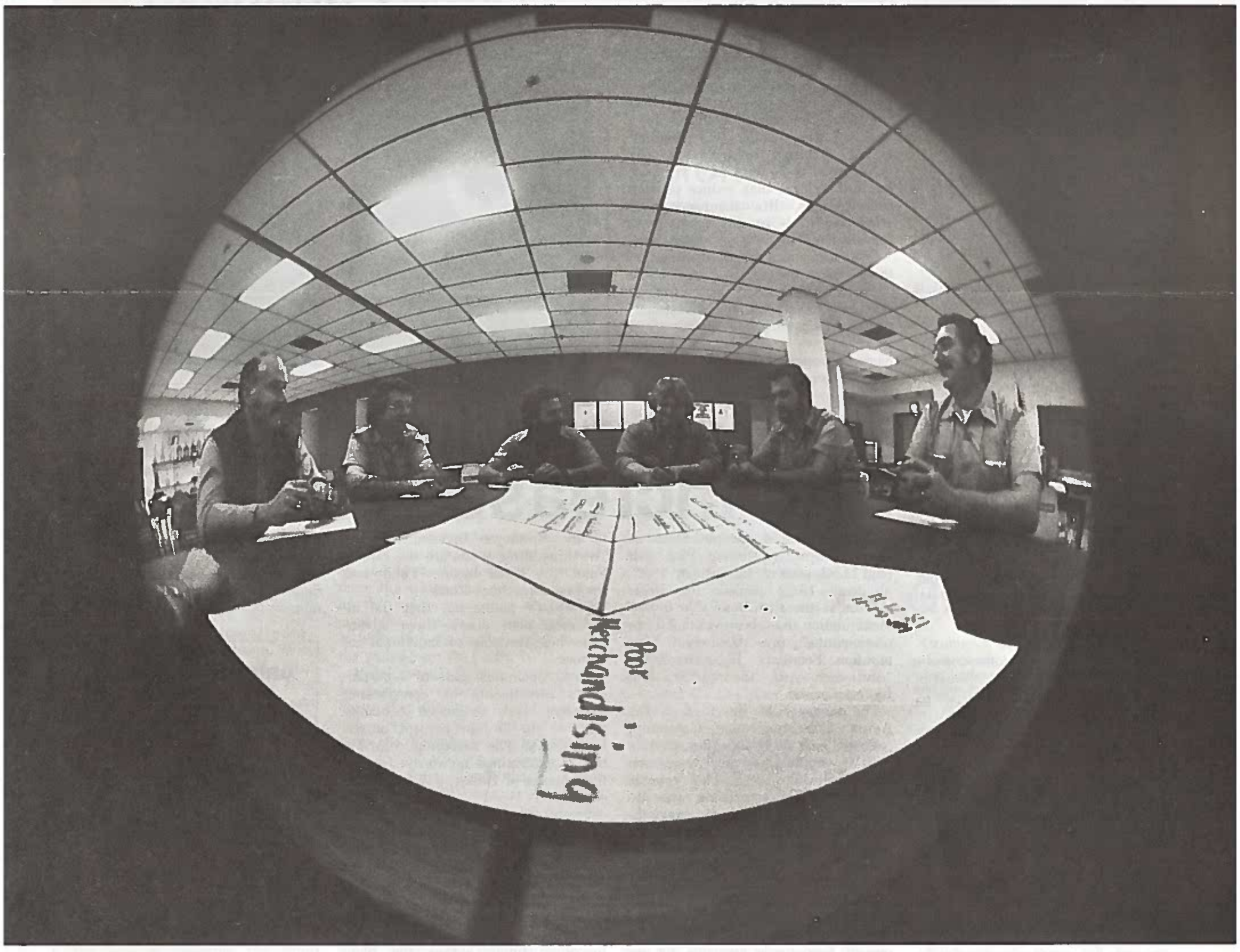

Pass it around: Quality circles work -pg. 4

Where do IRAs fit into the picture?

During 1982, all wage earners — even those covered by pension plans — will be able to defer taxes on up to $2,000 of income by depositing the amount into an Individual Retirement Account (IRA).

Many financial institutions, including the Bethpage Federal Credit Union, are offering such accounts. And while some companies will amend employee savings plans to qualify as IRAs, Grumman's Employee Investment Plan will not be changed at this time.

"Grummanites use our investment plan to save for large purchases, such as a car or home, or to pay for children's educations, as well as for additional retirement income," explains Grumman Corporation Secretary Bob Bradshaw. "And being able to make withdrawals for these other purposes is a very useful feature of our savings plan."

Under the law, individuals wishing to add to their retirement income can contribute up to 15 percent of their gross pay up to $2,000 a year ($2,250 for a married couple with one spouse not working) to an IRA. The income tax on the contribution and any interest it earns is then deferred until retirement, when the individual may be in a lower tax bracket. The money deposited into IRAs cannot be withdrawn before age 59½ without paying substantial penalties in addition to the tax on the amount withdrawn.

Money put into the Grumman Employee Investment Plan is taxed; taxes on the interest and appreciation is deferred until withdrawal.

While IRAs have been available for some time to people who do not have company pension plans, new legislation enables every wage earner to open one.

"We encourage people to supplement their pension and Social Security with personal savings," says Bradshaw. "However, after studying this law, we believe most of our employees' needs will be best served by leaving the investment plan as it is and encouraging the use of IRAs at the Credit Union or other financial institutions.

"While there will be many different ways to invest IRA money, I'm sure the Credit Union, with its payroll deduction feature, will be a competitive program."

Bradshaw explains the company has examined other tax savings programs and their relationship to the Employee Investment Plan.

How about 401 K?

"Many Grummanites have asked about the 401 K plan in which employees don't pay taxes on contributions the employer makes to a qualified plan. Under this program, actual earnings reported on the employee's W-2 form are reduced, but this in turn may reduce pension contributions, life insurance and other benefits — in many cases, even Social Security," says Bradshaw.

"We have attempted to examine these new programs from every viewpoint, and we reached the decision not to qualify the investment plan for such programs at this time. However, we will continue to explore all options that may benefit our members."

Happy holidays!

Guaranteed income fund rate increases to 11.83%

The Guaranteed Income Fund of the Employee Investment Plan will pay 11.83 percent interest in 1982, up from 10.02 percent for 1981.

"This is the fifth year this investment option has been available to participants," says Grumman Corporation Secretary Bob Bradshaw. "And each year, the interest rate has been raised."

The manager of the fund is the Aetna Life Insurance Company.

The 11.83 percent interest rate will be applied to all money on deposit during 1982. This rate is determined by combining the interest being paid on funds previously invested, with the rate on new money to be deposited during the coming year. The new money rate for 1982 has been established at 15.75 percent.

The Guaranteed Income Fund is one of four funds available for investment of employee contributions to the Employee Investment Plan. The other three funds are the Equity Fund, the Fixed Income Fund, and the Company Stock Fund.

Bradshaw points out that the investment plan offers three advantages not available to individual investors.

First, Grumman adds to a participant's investments by contributing company stock to match contributions — up to four percent of the base salary. The matching contribution is determined quarterly; for the first quarter of 1982 it will be 75 percent.

Second, participants receive an income tax deferment on interest and capital gains until they actually receive payment.

Finally, pooling contributions into a fund allows for diversification of investments, while still permitting withdrawals and transfers of money to other funds within the plan.

More information can be found in the 15-page Employee Investment Plan booklet in Plant 28, mail stop A03-28. If you have further questions, you can speak with a plan representative on Ext. 7250.

Personals

To all my Grumman friends, thank you for all your help during my past medical problem. The GAC family came through and my family and I thank you very much. **Ed Brierton**

I wish to express my thanks to my friends and co-workers for their thoughtfulness during the recent death of my mother. **Marilyn Bolz**

My family and I wish to express our sincerest thanks to all my friends and co-workers for their many prayers and generosity during the recent kidney operation between my son and daughter. We shall be forever grateful and may God bless you all. **Dorothea Keegan and Family**

I wish to thank all my co-workers for their kindness during my recent convalescence. **Bud Wilson**

The Potonides family would like to thank their many friends at Grumman for their good wishes and supportive messages during Homer's illness.

GRUMMAN plane news

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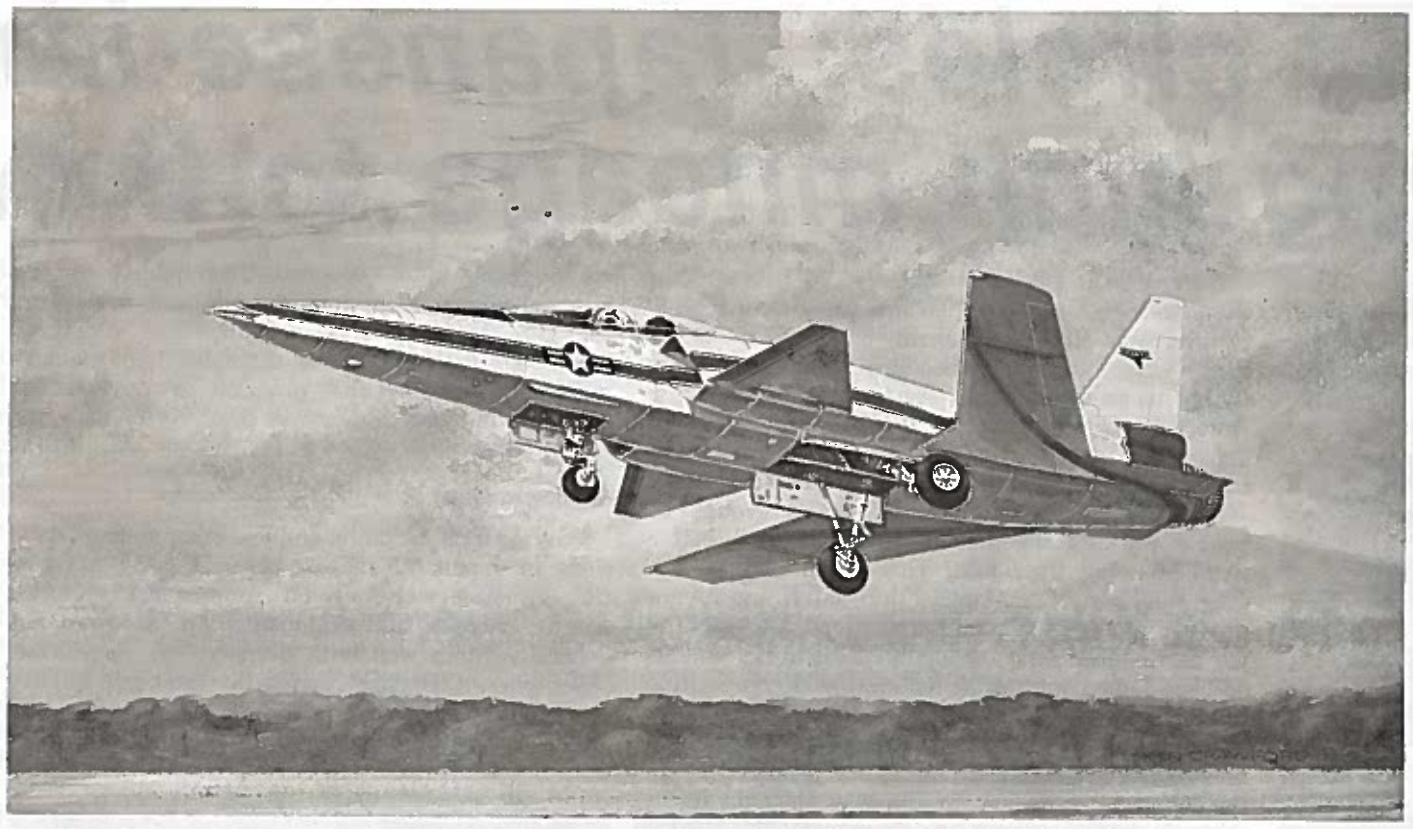

Looking forward. *Grumman's X-29A will change the look of future aircraft. The wing, made of layer upon layer of bonded composite material, will be the reason.*

New technology forwards aviation

It's an idea whose time has finally come. After many attempts — some barely successful, some that never left the drawing boards — forward swept wing aircraft are coming back. This time they will be on a Grumman-built high performance jet aircraft that will take off in December of 1983.

Grumman was chosen by the Defense Advanced Research Projects Agency (DARPA) to build this demonstrator whose composite wings will prove the feasibility of the concept.

"It will be 90 percent a Grumman airplane, not a government airplane," Col. Norris Krone (Ret.), formerly DARPA's director of Air Vehicle Technology, told a meeting of the American Institute of Aeronautics and Astronautics on Long Island last year. With this freedom of design, he said, "We will come out with one heck of a good flight technology demonstrator."

Grumman's Forward Swept Wing (FSW) program director, Bob Roemer, says, "The plane will have aircraft performance equal to contemporary fighters. It will be about the size of an F-5 and will have the performance of an F-16."

Why build a plane with such strangely angled wings? Studies have shown that aircraft with forward swept wings should have better handling characteristics around the speed of sound, be more maneuverable, and yet fly slower than conventional, aft swept wing fighters before the wings stall and lose lift.

The idea of sweeping the wings forward goes back decades; several designs have been flown. However, the design was used to gain more fuselage space, not to obtain better performance.

In 1944, the Germans tested a forward swept wing, four jet engine bomber, the Junkers JU-287. They flew it 17 times, but it never went into production.

After the war, the same design team that built the JU-287 designed and produced an FSW business jet, the Hansa HFB-300. While the plane was aerodynamically successful, it was too expensive and went out of production.

The FSW concept has never been successfully applied to high performance aircraft because of aeroelastic divergence. As an FSW aircraft flies, its wings tend to twist up and back. The faster it flies, the more the wings tend to twist. Forces on the wings, especially where they meet the fuselage, become extremely high and the airflow tries to rip the wings from the plane.

Metal wings strong enough to overcome divergence would be so heavy that the plane would need an extremely powerful engine to get back the FSW's performance advantages.

North American Rockwell began to design an FSW version of its P-51 fighter, but that never got off the drawing boards.

It was Col. Krone's doctoral thesis on the application of composite materials in the construction of FSW high performance aircraft that revitalized the idea. And Grumman had the expertise, along with several other companies, in making composites. In 1975, Grumman's Milledgeville plant was opened for one purpose: to construct aircraft parts made of composite materials such as boron and graphite.

"We've proven to ourselves and our customer," says Roemer, "that the aeroelastic divergence problem can be solved with composite structures."

An FSW made of composites on a fighter, according to research, should reduce the plane's weight by 20 to 25 percent compared to the same class of aft swept wing plane. Since cost increases with the weight of a plane, these future fighters would be less expensive to build and more fuel efficient as well.

While from the cockpit area forward the X-29A will be an F-5, this won't be an old plane with new wings. For example, Grumman has developed one of the most advanced fly-by-wire control systems for the aircraft. Every control command made by the pilot will pass through three redundant, digital computer monitored systems. These eliminate the need for the pilot to continually make corrections for every little wobble in flight.

It will be powered by the General Electric 16,000 pound thrust F404 engine.

Roemer points out that the X-29A is a concept demonstrator, which NASA will test for a year or more after completion. There are no production plans yet.

"But, if the X-29A performs as well as we feel it will, production of similar aircraft will eventually follow. And the knowledge Grumman has will be a tremendous advantage in future competitions."

FSW gets green light

The wings of future fighters are swept toward tomorrow and tomorrow is 1983, when Grumman's Forward Swept Wing (FSW) demonstrator, the X-29A, will fly.

Grumman Aerospace received a $77 million contract from the Air Force last week for the construction of two FSW aircraft. The Air Force serves as the contracting agent for the Defense Advanced Research Projects Agency (DARPA).

"The plane is being designed and built in Plant 5 and, at the peak of manufacturing activity, there'll be about 400 people working on it," says Program Director Bob Roemer. The first flight is scheduled for December, 1983.

Grumman began design of the high performance aircraft back in 1976, in competition with General Dynamics and Rockwell International. DARPA announced last March that Grumman would receive the FSW contract and the company has since been working under a formal agreement.

The highlight of the design is the pair of high-strength, light-weight composite wings. These will prove the feasibility of the forward swept wing concept, which dates back to World War II.

After initial flight testing at Calverton, the National Aeronautics and Space Administration will put the plane through a year of extensive testing at Edwards Air Force Base in California.

IBM selects Grumman

Grumman Aerospace was recently awarded three contracts by IBM Corporation.

The first, valued at $800,000, is for the fabrication, assembly, and test of a system that IBM will use to test memory chips for its computers.

A second pact, worth approximately $1.2 million, is for Grumman to build another test system which will be used to check out semiconductor circuit boards.

The third contract is to train Grumman technicians to provide IBM test systems with on-site support; this contract is valued at $200,000.

Work on all three will be performed at the Great River facility.

Quality circles: Japanese imp offering high mileage to U.S.

Americans love to be number one — whether it's on the gridiron or in the world marketplace. In recent years, however, there has been increased alarm over the U.S. productivity growth. Even though the U.S. still leads the world in productivity, such countries as Japan West Germany and France are closing the gap fast.

Slipping away

The U.S. is in danger of losing its number one ranking because its productivity growth rate is only about two percent a year, while other countries are growing at a rate of eight percent or higher.

Over the long run, low productivity growth affects the nation's economy, its domestic and foreign sales, its workforce and standard of living.

You name it. *Traditionally, one of the first tasks undertaken by a quality circle is to come up with a name that best describes the group of volunteer members. Formed a few weeks ago, the Food Services quality circle is featured on the cover. Led by Rich Smith, this group decided that Twinkie Stuffers is a great name for their circle. The 10 members are in charge of the company's vending machines. Other circles pictured in this issue are: the Material Crusaders from Plant 30 Material Management; and the '088' Quality Assurance and Excellence group from Plant 3 Honeycomb and Advanced Composites. (Photos by Rich Breunig)*

Among the several moves by American businesses — including Grumman Aerospace — to overcome this decline in productivity is to study what other countries are doing and adopt those techniques that seem best suited for America. Quality circles (QCs), conceived in Japan, are drawing increased interest in Grumman as well as in numerous other U.S. companies.

Basically, quality circles are small groups of people working together to find new and better ways of doing their jobs. This might include finding methods of making a job safer, improving product quality and communications, making the job more interesting, reducing paperwork, and so on. The hoped for result: an improved competitive position in the marketplace.

The formation of quality circles in this country results from a recent trend to let people who do the job have more say in the way they do it. In other words, participative management. "Given the chance, most people want to be productive," says Rich Friedel, director of Personnel's Quality of Work Life Programs. "And given the opportunity, they will eagerly involve themselves in their jobs. Quality circles provide that opportunity."

Growing daily

An estimated 750 corporations and government bodies in the U.S. are now using quality circles . . . and that number is growing almost daily. Last April, Grumman Aerospace joined the group by establishing seven circles in various parts of the company.

"Our program is still in its infancy," reports Friedel, "but judging from the success so far, QCs will be finding homes in departments throughout the company.

Grumman and other American companies are banking that quality circles will bring them the same type of success QCs have brought to Japanese firms. Started as a national program in Japan in 1962, quality circles have helped transform that country from a maker of "cheap" products into one of the most productive manufacturers of high-quality products in the world.

For years, many believed that quality circles, although popular in Japan, could not survive in the U.S. Differences in organizational structure, employee loyalty, cultural attitudes and management style made the program a natural for Japanese industry but not as likely to be accepted in the West.

An ocean apart?

Why? There is more employee input into decisions in Japan; its culture stresses group interaction. America was built on Yankee ingenuity; we admire rugged individualism, which does not generally fit in well with decisions by committee.

So when U.S. firms tried to establish quality circles in the early 1970's, they tried to "Americanize" the successful Japanese management technique. However, their programs

strayed too far from the methods used overseas — especially in the area of participative problem solving — and soon died.

Quality circles depend on the collective knowledge of the group, rather than on one individual or leader, to find the effective solution to the problem. Some firms also did away with the extensive training of circle leaders and members that is so essential to the proper functioning of a QC.

Success came about only after American firms closely followed the Japanese methods and training materials.

What about Grumman?

Prior to launching its QC program, Grumman enlisted the services of a consulting firm, Quality Control Circles, Inc. "We called on outside help because of the company's proven track record," recalls Friedel. "In that way, Grumman could avoid the pitfalls other American firms had encountered."

In early April, the company conducted a three-day seminar for potential quality circle leaders at

ort ndustry

Grumman. Seven supervisors who attended volunteered to lead quality circles in their areas.

"Quality circles have been getting a lot of press, and I was very interested in finding out how they would work here," says Bill Hanberry of Camera Graphics in Plant 15.

After the seminar, the seven QC leaders went back to their respective areas and asked for volunteers. "The response was overwhelming," says Ed Brown of Plant 3's Honeycomb and Advanced Composites Department.

Quality circles work best when the group is no larger than 10 persons. This caused a bit of a dilemma for the leaders. They all had more than double the number of volunteers needed to form a circle. "We used a lottery to pick the members," recalls Phil Mancuso of Plant 43's Box-Panel Fabrication Department.

The circles began to meet weekly. It soon became evident to the members that this new program was going to entail a lot more than sitting in on a weekly bull session.

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During the first few weeks, the volunteers received training in the various techniques they would use to help them pinpoint and solve problems. Those techniques consisted of how to find creative solutions to problems (Brainstorming); separating important information from insignificant data (Pareto Analysis and Checksheets); collecting and analyzing data (Sampling); identifying the different parts of a project (Cause and Effect Analysis); and choosing between two or more alternatives (Decision Analysis).

After seven months, Friedel reports that the pilot circles are performing well. "Of the original seven, six are still meeting weekly," says Friedel.

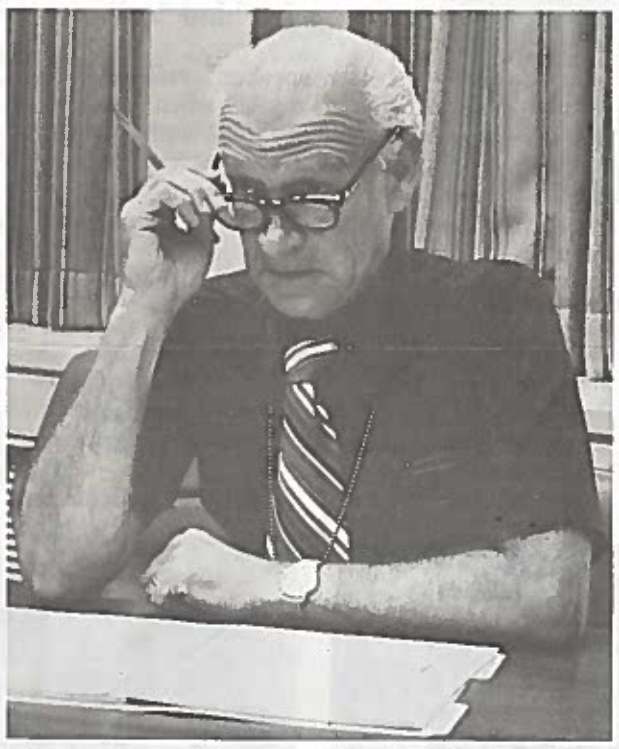
"The Extra Touch of Quality team from Plant 1 disbanded when the DC-8 pylon work moved, as scheduled, to Stuart — but not before the circle members made some suggestions on how to make the smooth transition without causing a slippage in production schedules.

"Of the six circles now operating, four have made their first presentation to management and three have been given the go-ahead to implement their ideas; the other is awaiting word," continues Friedel. "Right now, they are working on new problems — many of them a lot more complicated than the first type they investigated."

Better than sliced bread?

Friedel believes that quality circles definitely have a future at Grumman Aerospace. "The early success of the QC pilot program has paved the way for the formation of nine new circles. As long as we take this new program step-by-step, it has the potential to help both the company and its employees in the long run.

"I don't think you can be too cautious in starting up a program like this," says Friedel. "I've seen too many companies institute a QC program on a grand scale and then see it diminish. Those



same companies are now going at a more conservative pace when it comes to quality circles — which is just how we are doing it at Grumman."

Friedel strongly believes that the key to success is in the hands of management — from the leadmen to the top executives of the company.

"Quality circle members have already demonstrated that they are willing to come to grips with those things that affect their own work place — ideas that over the long haul help the company meet its objectives," says Friedel.

True team member

"It takes a secure manager to be a circle leader. He or she must be able to take constructive criticism, listen to new ideas, and not feel threatened in the process. In other words, be a true team member as well as a group leader.

"Besides building a better competitive position," continues Friedel, "quality circles have the potential to build a better rapport among the company's disciplines. But managers must respond to circle ideas. They can't just pay lip service . . . they must be sincerely listening."

You might ask

What kinds of projects do quality circles work on? This usually depends on the kind of work the circle members are involved with. For instance, circles in the hardware world often study ways to improve quality or reduce costs, while office workers often try to reduce paperwork, provide better services, meet deadlines, eliminate red tape, etc. Circle members concentrate on their work-related problems.

Why is the supervisor the circle leader? For a circle to be successful, it must operate within the existing company framework. Experience at other companies shows that this is best accomplished when the supervisor is the circle leader.

What is a facilitator? A facilitator is a person specially trained in QC procedures. Along with the Steering Committee, this Grummanite helps manage the program. He He or she coordinates all circle activities and makes sure that all circles get the training, time and resources they may need to get the job done.

What is the Steering Committee? This committee serves as the "board of directors" for the QC program. It is made up of a cross section of people from various company departments. In addition to its work in administering the overall program, the committee assures management support for the program. Members of Grumman's Steering Committee are: Vice Presidents Tom Kelly (Engineering), Dan Knowles (Personnel and Administration), Frank Messina (Manufacturing), Bob Myers (Resources), and Bill Voorhest (Security and Corporate Services); directors Tom Harding (Material Management), Joe Kingfield (Corporate Quality and Safety Ops), Ed Siebert (Productivity), and Rich Friedel (Quality of Worklife); and Ted Giannone, former director of Quality of Worklife.

How do I find out more about Grumman's quality circle program? Contact facilitators Marta Bergamini or Fran Higgins, on Ext. 8305 or 1819. They would be happy to give you more information.

'You can't lose with quality circles'

Though Grumman's quality circle program is still in its infancy, it has been getting rave reviews from the Grummanites involved.

"You can't lose with quality circles," says Bill Hanberry, leader of the Filmers circle. "It's infectious; everybody gets into the act from the start."

Traditionally, one of the first circle tasks is to come up with a name that best describes the group of volunteer members. The six original quality circles that began meeting weekly last April are: the Production Probers from Plant 43 Box-Panel Fabrication; the Filmers of Micrographics in Plant 15; Template Ten of the Dye/Template Shop in Plant 2; the Last Detail from Plant 43 Material Management; the Material Crusaders from Plant 30 Material Management; and the "088" Quality Assurance and Excellence circle from Plant 3 Honeycomb and Advanced Composites.

Benefits bonanza

All six circle leaders believe that there are many benefits being derived from QCs at Grumman. Benefits such as closing communication gaps between supporting departments, improving one's self-esteem, and cutting through red tape.

"These circles are bringing people who work on the bench into an environment where they feel they can have some control over how their work is done," says Phil Mancuso, leader of the Production Probers.

Adds Vivian Dooley, Material Crusaders' leader, "Everyone in a quality circle has the opportunity to contribute. Even shy people who are good workers but were never really heard before are speaking up. Members get a chance to see their ideas put into action."

Morale is riding high in departments where quality circles exists. "Last Christmas, I had to go around and solicit people to go to the plant party," reports one circle leader. "This year, everybody is coming to me for tickets."

Leaders also admit that even the traditional schism between oldtimer and newcomer is beginning to dissolve. "The more experienced worker is finding out that the youngster in his group has a lot to contribute — and vice versa," reports Ed Brown, "088" circle leader.

Job frustration also shows signs of waning. "Quality circles offer people an outlet to vent irritations and anxieties about their work," says one circle leader.

Adds another, "In the hardware world, it's easy to see your cost-saving ideas put into effect. In the papermill areas, it's tougher to see the effect, but you do have a way of making your job and others down the line easier and more effective."

A good portion of the leaders believe that the quality circle has broadened their managerial skills.

"I've become a better speaker," reflects Mancuso. "I used to listen to myself when I was addressing a group; now I talk with people."

"Before quality circles, I was nervous when I talked to a group," admits Brown. "Today, I find myself opening up more . . . being more confident."

Confidence builder

Leaders say that fellow circle members are also becoming more confident. Potential leadership abilities are being developed. Those involved are becoming better listeners — and communicators.

Several leaders report that the enthusiasm generated by circle members has spread throughout their departments. "After each meeting, we post our progress charts, so others can see what we are doing," says Hanberry, who like fellow leaders has a waiting list of volunteers wanting to join a QC. "Circle members get suggestions and comments from fellow workers about the projects we are working on."

While the first six circles were established only in Manufacturing, Material Management, Communication Services, and Great River, nine new circles have been set up in Quality Control, Presentations, Food Services and Engineering in recent weeks.

Across the board

"I'm glad to see that this program is not restricted to us," says one fellow who works in Manufacturing. "It always seems to be the shop people who are encouraged to support motivational programs like Pride of Workmanship or Project Sterling.

"Inviting people in Procurement and other areas to join the quality circles makes it truly a corporate program."

If you are asked to volunteer to lead a quality circle in your area, the original six circle leaders have some advice for you.

"Before you decide to become a circle leader, do a little research on quality circles," recommends Aarne Kiiroja of Template 10. "There are lots of interesting magazine articles available."

"Keep an open mind," says Brown. "Listen to all new ideas, no matter how far-fetched."

"If you are people-oriented and are not afraid to do things based on the group's decision," says Hanberry, "a quality circle can make your job much more satisfying and easier."

D. Reynolds

D. Fish

C. Tulli

J. Masek

F. Barker

L. Orlando

A. Verderosa

N. Marchese

A. Miakicz Jr.

service milestones

J. Garelle

D. Collins

L. Junen

C. Amoto Jr.

W. Yearsley

D. Sheehan

M. Cain

R. Myers

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Carmen A. DeSimone, Sub-Assy Major (2)
Louis F. Muolo, Final Assy. (2)
Chester C. Andrews, BPA M/S (2)
Clifton B. Bain, Spotweld (3)
Stanley C. Miron, B/P Warehouses (21)
Wilbur Frank, Invent. Cntrl. (30)
Helen J. Giratz, ILS Secretarial Servs. (40)
Lawrence Orlando, Tech. Mgt. Sys. (25)
Albert Verderosa, A/C & Marine Prog. Staff (25)
Nicholas Marchese, Elect. Eng. Pwr/Ctrls. (30)
Anthony A. Miakicz Jr., Fin. & Reg. Reports (30)
Eugene J. Barkley, Prog. Contracts (40)
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Daniel T. Collins, P.M. A-6 (40)
Edward G. Hantz, Config. Data Mgmt. (40)
Leo P. Junen, Cust. Reqts. (89)
Carl Amato Jr., ILS Prog. Mgmt. (40)
William E. Yearsley, Sys. Test (86)
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Marion B. Cain, Medical (6)
Richard H. Myers, Pl. Protection (6)

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Harold J. Vetter, Ctr. Sect-Sub Assy. (2)
Joseph M. Kern, Ep. Circ & Mod. Fab. (43)

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Alexander Zuck, Tool Maint & Repair (1)
Raymond S. Yerden, ILS Syst. Concepts (1)
William T. Capon, Major Assy (2)
Norman F. Graf, Propulsion Test (2)
Edward Budny, Matl. Offsite Supp. Cntl. (2)
John W. Hervan, Jig Details & Sub-Assy. (2)
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Edward Fuoco, Production Mgmt & Staff (6)
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Christina A. Tulli, Management & Staff (5)
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Richard W. Goldzung, Navig & Cntrl. Equip Des. (5)
Narcissus B. Kozerski, Pl. Protection (6)
Edward M. Arndt, Elect. Equip. Des. (14)
William F. Hordisky, Info Rec & Serv. (25)
John L. LeGuillou, Sys. Des. (25)
Joseph R. Sardi, Operations (25)
Frederick H. Mensching, Specifications (25)
Raymond Jacobowitz, Tech. Ops. (77)

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Taylor F. Jones, Router & Shear (2)
Raymond W. Speck, Welding Group (2)
Alan L. Stalb, Mfg. Prog. Mgt. (2)
Henry J. Barral Jr., Convent. Machs. (3)
Arne Viker, Maint-Rearrangement (3)
Michael J. Vicino, Maint-Rearrangement (3)
Salvatore Aversano, Elect. Test (4)
Stephen Cacace, Flt. Avionics (4)
Jerry Fonzo, I.E. Flow Seq. Plnng. (5)
Andrew V. DaPuzzo, Performance (5)
Bruce W. Gatley, Software Applications (5)
Hugh H. Lowery, Ops. Analysis (5)
Richard Schoemmell, Engines (6)
John G. Peterson, Indust. Eng. (6)
John H. Asher, Meas. Standards (6)
Joseph W. LoGalbo, Quality Eng. (6)
John M. Barron, Corp. Instr. Flt. Data (7)
Rudolf Wolf, Elect. Test (8)
Raymond W. Siefert, Prog. Plnng. Cntrl. & Budg. (9)

Gobble, gobble

For the rest of the year, you bring home the bacon. But on December 23, you can bring home a great big Grumman turkey — and Food Services offers some suggestions on how to prepare and cook it.

Dick Lindstrom, director of Food Services, suggests that you allow a full 24 hours for defrosting at room temperature, or three days in the refrigerator.

"And don't take the bird out of the plastic bag during the defrosting," says Lindstrom, "because oxidation will cause the skin to turn brown."

Allow about 15 minutes per pound at 325° when roasting uncovered without stuffing, and 20 minutes per pound for roasting an uncovered turkey with stuffing. If you're roasting it in a covered pan, reduce the cooking time by 25 to 30 percent.

Don't pack the dressing in tightly; stuff it loosely to allow for expansion. and don't try to save time by stuffing it the night before: that permits dangerous growth of bacteria. Stuff the turkey right before it's ready to go into the oven.

The surest way to cook your turkey properly is to use a meat thermometer. Place it in the center of the thigh muscle but don't let it touch the bone. When it registers 185° it's done.

If you don't have a thermometer, you can check for doneness by moving the drumstick up and down; the joint should move easily or break. Another test is to pierce the skin at the second leg joint; juices should run clear with no trace of red or pink.

Remove the stuffing and allow turkey to cool for about 20 minutes before carving.

Service with a smile

Quarter-century club welcomes 424 new members

On December 8, more than 3,000 men and women welcomed 424 new members to their elite group — the Grumman 25-year club.

The holiday spirit could be felt throughout the massive Colonie Hill ballroom, which was decked with balsam roping and huge Christmas tree. Attendees spent much of the day renewing old acquaintances and reminiscing.

Before the 27th annual 25-year luncheon officially got underway, the 400-plus Grummanites who marked their 25th year of service received engraved watches from top company officials.

Put it there

On hand to personally congratulate the new members of the 25-year club were Grumman Corporation Chairman Jack Bierwirth, Grumman Corporation President Joe Gavin, Grumman Aerospace President George Skurla, and Clint Towl, director emeritus, along with other subsidiary heads.

"This has been one helluva year," Bierwirth told attendees, referring to the aborted LTV takeover attempt. "We pulled together . . . you, your co-workers, and your neighbors . . . and formed a unity that the business community has never seen before."

Golden era

Bierwirth believes that same gung-ho spirit will help carry Grumman through "the golden Eighties." "In addition to having Grumman aircraft programs firmly established," he said, "there are new, exciting programs coming up . . . the forward swept wing prototypes, carrier cargo planes, V/TOL . . .

"That same determination and talent that you have contributed to the company over the past 25 years or more will help make this decade truly a golden one for Grumman."

obituaries

WILLIAM F. GRAHAM of Elect. Box Pan & Draw Fab., Pl. 43, died Nov. 17 at the age of 64. He had been with the company since 1973 and resided at 40 Avenue F., Ronkonkoma.

RAYMOND J. HAYES of Inventory Plan and Analysis, Pl. 30, died Nov. 13 at the age of 58. He had been with the company since 1969 and resided at 249 N. Syracuse Ave., N. Massapequa.

HERBERT HYATT of Q.C. Inspection Planning, Pl. 3, died Nov. 16 at the age of 53. He had been with the company since 1966 and resided at 24 Forest Lane, Westbury.

RICHARD COLLINS of Prototype, Pl. 1, died Nov. 14 at the age of 59. He had been with the company since 1945 and resided at 154 Van Buren St., West Babylon.

GEORGE L. ZAJAC of Central Receiving, Pl. 24, died Nov. 17 at the age of 37. He had been with the company since 1966 and resided at Cloverdale Gardens, Apt. 19B, Great Neck Rd. Amityville.

JOSEPH H. HARRISON III of Subcontractor Surveillance, Pl. 30, died Nov. 21 at the age of 37. He had been with the company since 1961 and resided at P.O. Box 279, North Baldwin.

STANLEY WIELICZKA OF Technical Requirement, Pl. 40, died Nov. 23 at the age of 55. He had been with the company since 1965 and resided at 7 Shirley Court, South Farmingdale.

ZEMONEE PORTER of Supplier Control, Pl. 87, died Nov. 24 at the age of 62. He had been with the company since 1972 and resided at 2009 S. Spaulding Ave., Los Angeles, Calif. 90016

PETER A. DE ROSA of Elect. Equipment Design, Pl. 25, died Dec. 4 at the age of 54. He had been with the company since 1964 and resided at 468 Grand Blvd., Long Beach.

ANTHONY MANCUSO of Maint-Rearrangement, Pl. 44 died Dec. 7 at the age of 51. He had been with the company since 1954 and resided at 85 Harper St., Patchogue.

Congrats. Jack Bierwirth (photo at L), George Skurla and Clint Towl (above photo) were on hand at the 27th annual 25-year luncheon to personally welcome 424 Grummanites into the quarter-century club.

GRUMMAN plane news

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